### University of Massachusetts

Department of Electrical and Computer Engineering

ECE Capstone Design Course Project Description

PROJECT ECE-xx

**Title:**

#### *Automobile rear passenger safety system*

**Customer/ Sponsor: Dr. Paul Fortier**

**Customer Company/Org: UMass Dartmouth**

**Customer Contact Information**

**email: pfortier@umassd.edu**

**Phone No(s)** (508) 999-8544,

**Team Composition: ECE students with interest in signal processing, embedded systems, systems control**

**Project Description and Objectives:**

There has been a persistent problem reported recently in the news concerning children and pets being left in hot or even cold automobiles resulting in illness and even death. This project looks to evaluate the problem and propose and develop a prototype to alleviate the problem. The solution must provide sensors to determine if a passenger or animal has been left in a vehicle, to track or assess their condition using to be determined means, to track and assess the vehicle's climate conditions (e.g. temperature, humidity) and some form of alert system to minimally signal people outside the vehicle so help can be found quickly, and a cell phone app to remind the vehicle owner or user as to their passenger's status and their requirement to take care of their passengers to meet legal and moral conditions.

This project includes

* Developing the specifications for an app or stand alone alarm system.
* Understanding the problem and why it is important
* Specifying the requirements for sensors, data acquisition, data processing, alarm generation, signaling to driver or first responders.
* Developing interfaces to any existing systems
* Prototyping and testing the system in the lab

**Resources:**

#### TBD.

#### **Faculty Advisor** *TBD*